

## **REMARKS**

### ***Drawings***

The drawings are objected to under 37 CFR 1.83(a), the Examiner indicating optical cavities must be shown or the feature(s) canceled from the claim(s). No new Drawing is believed to be required, however, as the specification (e.g., page 5, lines 4-11) clearly explains that optical cavities are formed between the electrodes of the OLED light emitting elements by making the electrode opposite to the direction of emission reflective and the electrode through which light passes partially reflective, and further indicates (page 5, lines 22-24) that in a bottom-emitting display (such as is illustrated in Fig. 3) the electrode 18 must be partially reflective while the electrode 30 can be totally reflective, and that in a top-emitting configuration (such as is illustrated in Fig. 4) the electrode 18 is reflective while the electrode 30 is partially reflective. Accordingly, the optical cavities are formed between the electrodes 18 and 30 in Figs. 3 and 4, and thus are sufficiently illustrated and described. While no new drawings themselves are accordingly believed necessary, the paragraph at page 5, lines 22-24 has been amended to clarify how optical cavities are formed in the bottom- and top-emitting configurations of Figs. 3 and 4. Reconsideration of the requirement for corrected drawing sheets is accordingly respectfully urged.

### ***Claim Rejections - 35 USC § 112***

Claims 1-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The examiner states that with respect to the claim language “whereby the display device has a reduced color change dependency on viewing angle and an apparent sharpness of the display device is improved”, is unclear what the device is being compared to (i.e. reduced or improved compared to what). Reconsideration is respectfully requested, as the “whereby...” clause of claim part d) claim language makes it clear that such claimed reduced color change dependency on viewing angle and improved apparent sharpness of the display device is a result of the substrate and/or the cover through which the display is viewed being a fiber-optic faceplate, and that the claimed reduced and improved properties are accordingly relative to otherwise comparable devices not employing a fiber-optic faceplate. The clarity

of the claim is in fact evidenced in the Examiner's ability to interpret the claim correctly, despite the purported indefiniteness.

***Claim Rejections - 35 USC § 103***

Claims 1-5 and 16-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over applicant's admitted prior art in view of Briggs et al. (US 5,131,065) in view of Roitman et al. (US 6,680,570).

Claims 6-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over applicant's admitted prior art in view of Briggs et al. (US 5,131,065) in view of Roitman et al. (6,680,570) as applied to claim 1 above, and further in view of Webster (US 5,274,405).

Claims 8-10 are rejected under 35 U.S.C. 103 (a) as being unpatentable over applicant's admitted prior art in view of Briggs et al. (US 5,131,065) in view of Roitman et al. (6,680,570) as applied to claim 1 above, and further in view of Melville (US 6,205,275).

Claims 11-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over applicant's admitted prior art in view of Briggs et al. (US 5,131,065) in view of Roitman et al. (6,680,570) as applied to claim 1 above, and further in view of Yamanaka (US 5,751,383).

Claims 14-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over applicant's admitted prior art in view of Briggs et al. (US 5,131,065) in view of Roitman et al. (6,680,570) as applied to claim 1 above, and further in view of Lowry et al. (US 6,396,985).

The above rejections are respectfully traversed, in view of the arguments as set forth in the Response filed February 7, 2006, which are incorporated here by reference, and Applicant's further explanations set forth below.

The Examiner states that Applicant's arguments have been fully considered but they are not persuasive. Specifically, in response to the argument that Roitman would teach against combining a fiber-optic faceplate as taught by Briggs with the optical cavity devices of Roitman, the Examiner argues Roitman teaches that the optical cavities are provided in order to improve the predictability of the color output of the display, and nowhere in Roitman is it recited that the

improved predictable color output is only valid in a viewing direction normal to the display, and that Roitman also does not state that the display must be viewed through a typical glass substrate or encapsulate in order for the improvement in predictable color output to exist.

While Roitman may not expressly indicate that the described improved color control feature would be with respect to an orthogonal viewing angle, such feature is readily derived from the express teachings of Roitman as was discussed in Applicant's previous arguments. As previously explained, the improved color predictability sought by Roitman is achieved by specifically designing the optical cavity to have a defined optical path length between reflectors of  $N\lambda/2$ , where  $\lambda$  is the desired predetermined peak wavelength of the emitted light. In the illustrated devices (and as in conventional devices), the reflectors are parallel, and the optical path length between the reflectors is in a normal direction to each reflector. Thus, the predetermined peak wavelength is controlled relative to orthogonal light emission, and the improved predictability is only with respect to the wavelength (and hence color) of light emitted normal to the microcavity device. As path lengths between the reflectors of the microcavity at angles other than normal will vary from the designed normal distance of  $N\lambda/2$ , light emitted from the device at angles other than normal will not undergo the same combination of constructive and destructive interference as does light that is emitted normal, and accordingly will not have the same color as light emitted normal. This is a well known feature of microcavity devices, as discussed at page 6, lines 3-5 of the specification.

Use of a fiber optic faceplate in accordance with the present invention accordingly would be taught against by the desired color control feature of Roitman, as off-angle (and thus "off-color" relative to the desired predetermined wavelength  $\lambda$ ) emission would be passed into the fibers and mixed with the desired wavelength emitted light, thus resulting in a less color controlled emission, as the mixed light would be viewed even at an angle normal to the display. Again, while this feature is not expressly discussed in Roitman, it is readily derived therefrom as discussed above. Thus, the prior art does not teach or suggest, or otherwise establish a prima facie case of obviousness, with respect to employing a fiber optic face plate in an optical cavity-type OLED display device in accordance with the present claimed invention.

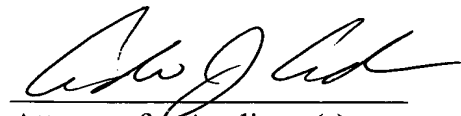
The Examiner further argues that Applicant has altered nothing in the optical cavities that in conjunction with the fiber-optic faceplate provides the specified function, and the fact that applicant has recognized another advantage (that the use of a fiber-optic faceplate with an OLED display device reduces the color change dependency on viewing angle) which would flow naturally from following the suggestion of the prior art cannot be the basis for patentability when the differences would otherwise be obvious. As discussed above, however, the cited prior art simply does not establish a prima facie case of obvious for combining a microcavity designed for a specific color control feature based on specifically designed cavity spacing with an optical fiber face plate for the individually taught advantages, as there is no “suggestion of the prior art” to employ such features together as urged by the Examiner. To the contrary, their use together would be taught against as it would compromise the intended “ $N\lambda/2$ ” improved color control sought by Roitman et al.

The further applied references of Yamanaka, Webster, Melville and Lowry et al. also fail to teach the specifics of the invention as claimed in claim 1, and thus all of claims 1-20 are believed patentable over the applied art for at least the same reasons.

Additionally with respect to claim 19, the Examiner’s assertion that one of ordinary skill in the art would have found it obvious at the time the invention was made to produce an OLED that emits coherent light for “use in applications that require lasers” appears irrelevant at best, as such statement does not establish a prima facie case of obviousness as to why it would have been obvious to use a fiber optic face plate in such proposed applications “that require lasers”. Such a light source and fiber optic face-plate combination is particularly useful in accordance with this particular embodiment of applicant’s claimed invention, as use of a coherent light source advantageously increases the percentage of light emitted orthogonally to the surface of the OLED light emitting element, thereby increasing the amount of light taken into the optical fibers. Thus, such embodiment of the present invention enables a further combination of advantages not taught or suggested by the cited prior art, and is accordingly believed patentable thereover.

In view of the foregoing amendments and remarks, reconsideration of this patent application is respectfully requested. A prompt and favorable action by the Examiner is earnestly solicited. Should the Examiner believe any remaining issues may be resolved via a telephone interview, the Examiner is encouraged to contact Applicants' representative at the number below to discuss such issues.

Respectfully submitted,

A handwritten signature in cursive script, appearing to read 'Andrew J. Anderson', written over a horizontal line.

Attorney for Applicant(s)  
Registration No. 33,564

Andrew J. Anderson/vjr  
Rochester, NY 14650  
Telephone: (585) 722-9662  
Facsimile: (585) 477-1148

If the Examiner is unable to reach the Applicant(s) Attorney at the telephone number provided, the Examiner is requested to communicate with Eastman Kodak Company Patent Operations at (585) 477-4656.